Amendments to the Specification:

Please insert the following heading and paragraph as the first paragraph on the first page in the application:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a 371 National Phase Entry Application of co-pending International Application PCT/CA2004/000626, filed April 28, 2004, which designated the U.S. and which claims the benefit under 35 U.S.C. § 119(e) of U.S. Provisional Applications 60/456,783, and 60/466,733 filed April 28, 2003, and May 1, 2003; the contents of which are herewith incorporated by reference in their entirety.

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

What is claimed is:

1-67. Cancelled

68. (new) A substantially pure SARS virus nucleic acid molecule.

69. (new) The molecule of claim 68, wherein said molecule is selected from the group consisting of genomic RNA or DNA, cDNA, synthetic DNA, or mRNA.

70. (new) The molecule of claim 68, wherein said molecule comprises a sequence substantially identical to a sequence selected from the group consisting of SEQ ID NOs: 1-13, 15-18, 20-30, 90-159, 208, and 209 or a fragment thereof.

71. (new) The molecule of claim 70, wherein said molecule comprises a sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO:2, and SEQ ID NO: 15 or a fragment thereof.

72. (new) The molecule of claim 70, wherein said molecule comprises a sequence substantially identical to a sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO:2, and SEQ ID NO: 15, or a fragment thereof.

73. (new) The molecule of claim 68, wherein said molecule comprises a s2m motif.

74. (new) The molecule of claim 73, wherein said s2m motif comprises a sequence substantially identical to a sequence selected from the group consisting of SEQ ID NOs: 16, 17, and 18.

75. (new) The molecule of claim 68, wherein said molecule comprises a leader sequence.

76. (new) The molecule of claim 75, wherein said leader sequence comprises a sequence substantially identical to the sequence of SEQ ID NO: 3.

77. (new) The molecule of claim 68, wherein said molecule comprises a transcriptional regulatory sequence.

78. (new) The molecule of claim 77, wherein said transcriptional regulatory sequence comprises a sequence substantially identical to the sequence selected from the group consisting of SEQ ID NOs: 4-13 and 20-30.

79. (new) The molecule of claim 1, wherein said molecule comprises a sequence substantially identical to a sequence selected from nucleotides 265-13,398; 13,398-21,485; 21,492 – 25,259; 25,268 – 26,092; 25,689 – 26,153; 26,117 – 26,347; 26,398 – 27,063; 27,074 – 27,265; 27,273 – 27,641; 27,638 – 27,772; 27,779 – 27,898; 27,864 – 28,118; 28,120 – 29,388; 28,130 – 28,426; 28,583 – 28,795; and 29,590 – 29,621 of SEQ ID NO: 15.

80. (new) The molecule of claim 68, wherein said molecule encodes a polyprotein.

81. (new) The molecule of claim 68, wherein said molecule encodes a polypeptide.

82. (new) A substantially pure SARS virus polypeptide.

83. (new) The polypeptide of claim 82, wherein said polypeptide comprises a polyprotein.

84. (new) The polypeptide of claim 82, wherein said polypeptide comprises an identifiable signal sequence.

85. (new) The polypeptide of claim 84, wherein said signal sequence comprises a sequence substantially identical to a sequence selected from the group consisting of SEQ ID NOs: 76 and 85.

86. (new) The polypeptide of claim 82, wherein said polypeptide comprises a transmembrane domain.

87. (new) The polypeptide of claim 86, wherein said transmembrane domain comprises a sequence substantially identical to a sequence selected from the group consisting of SEQ ID NOs: 77-86.

88. (new) The polypeptide of claim 82, wherein said polypeptide comprises a glycoprotein.

89. (new) The polypeptide of claim 88, wherein said glycoprotein comprises a matrix glycoprotein.

90. (new) The polypeptide of claim 89, wherein said matrix glycoprotein comprises a sequence substantially identical to SEQ ID NO: 34.

91. (new) The polypeptide of claim 82, wherein said polypeptide is selected from the group consisting of a transmembrane protein and a multitransmembrane protein.

92. (new) The polypeptide of claim 82, wherein said polypeptide is selected from the group consisting of a type I transmembrane protein and a type II transmembrane protein.

93. (new) The polypeptide of claim 91, wherein said polypeptide comprises a transmembrane anchor or a a transmembrane helix.

94. (new) The polypeptide of claim 82, wherein said polypeptide comprises an epitope of a SARS virus.

95. (new) The polypeptide of claim 82, wherein said polypeptide comprises an ATP-binding domain.

96. (new) The polypeptide of claim 82, wherein said polypeptide comprises a viral envelope protein.

97. (new) The polypeptide of claim 82, wherein said polypeptide comprises a nuclear localization signal.

98. (new) The polypeptide of claim 82, wherein said polypeptide comprises a lysine-rich sequence.

99. (new) The polypeptide of claim 98, wherein said lysine-rich sequence comprises a sequence substantially identical to SEQ ID NO: 14.

100. (new) The polypeptide of claim 82, wherein said polypeptide comprises a RNA binding protein.

101. (new) The polypeptide of claim 82, wherein said polypeptide comprises a hydrophilic domain.

102. (new) The polypeptide of claim 101, wherein said hydrophilic domain comprises a sequence substantially identical to SEQ ID NO: 87.

103. (new) The polypeptide of claim 82, wherein said polypeptide is selected from the group consisting of replicase 1a, replicase 1b, spike glycoprotein, small envelope protein, matrix glycoprotein, and nucleocapsid protein.

104. (new) The polypeptide of claim 82, wherein said polypeptide comprises a sequence substantially identical to a sequence selected from the group consisting of SEQ ID NOs: 14, 33-36, 64-74, and 76-87 or a fragment thereof.

105. (new) A vector comprising the nucleic acid molecule of claim 68.

106. (new) The vector of claim 105, wherein said vector comprises a sequence substantially identical to a sequence selected from the group consisting of SEQ ID NOs: 1-13, 15-18, 20-30, 90-159, 208, and 209.

107. (new) The vector of claim 105, wherein said vector is a gene therapy vector.

108. (new) A host cell comprising the vector of claim 105.

109. (new) The host cell of claim 108, wherein said cell is selected from the group consisting of a mammalian cell, a yeast, a bacterium, and a nematode cell.

110. (new) A nucleic acid molecule having substantial nucleotide sequence identity to a sequence encoding a SARS virus polypeptide or fragment thereof, wherein said fragment comprises at least six amino acids, and wherein said nucleic acid molecule hybridizes under high stringency conditions to at least a portion of a SARS virus nucleic acid molecule.

111. (new) The nucleic acid molecule of claim 110, wherein said nucleic acid molecule has 100% sequence complementarity to said sequence encoding a SARS virus polypeptide or fragment thereof.

112. (new) A nucleic acid molecule having substantial nucleotide sequence identity to a SARS virus nucleotide sequence, wherein said nucleic acid molecule comprises at least ten nucleotides, and wherein said nucleic acid molecule hybridizes under high stringency conditions to at least a portion of a SARS virus nucleic acid molecule.

113. (new) The nucleic acid molecule of claim 112, wherein said nucleic acid molecule has 100% sequence complementarity to said SARS virus nucleotide sequence.

114. (new) A nucleic acid molecule comprising a sequence that is antisense to a SARS virus nucleic acid molecule.

115. (new) An antibody that specifically binds to a SARS virus polypeptide.

116. (new) The antibody of claim 115, wherein said antibody is a neutralizing antibody.

117. (new) A method for detecting a SARS virus virion or polypeptide in a sample, said method comprising contacting said sample with the antibody of claim 48, and determining whether said antibody specifically binds to said polypeptide.

118. (new) A method for detecting a SARS virus genome or gene or homolog or fragment thereof in a sample, said method comprising contacting a SARS virus nucleic acid molecule, wherein said nucleic acid molecule comprises at least ten nucleotides, with a preparation of DNA from said sample, under hybridization conditions providing detection of DNA sequences having nucleotide sequence identity to a SARS virus nucleic acid molecule.

119. (new) The method of claim 118, wherein said nucleic acid molecule comprises at least one of a primer pair, wherein said primer pair hybridizes to said a SARS virus genome or gene or homolog or fragment thereof under conditions suitable for polymerase chain reaction.

120. (new) A method of targeting a protein for secretion from a cell, said method comprising attaching a signal sequence from a SARS virus polypeptide to said protein, such that said protein is secreted from said cell.

121. (new) A nucleic acid molecule comprising a sequence complementary to a SARS virus nucleotide sequence.

122. (new) A kit for detecting the presence of a SARS virus nucleic acid molecule or polypeptide in a sample, said kit comprising a reagent selected from the group consisting of a SARS virus nucleic acid molecule and an antibody that specifically binds a SARS virus polypeptide.

123. (new) A method for eliciting an immune response in an animal, said method comprising identifying an animal infected with or at risk for infection with a SARS virus, and administering a SARS virus polypeptide or fragment thereof, or administering a SARS virus nucleic acid molecule encoding a SARS virus polypeptide or fragment thereof, to said animal.

124. (new) The method of claim 56, wherein said administering results in the production of an antibody in said animal.

125. (new) The method of claim 56, wherein said administering results in the generation of cytotoxic or helper T-lymphocytes in said animal.

126. (new) A method for treating or preventing a SARS virus infection comprising identifying an animal infected with or at risk for infection with a SARS virus, and

administering a SARS virus nucleic acid molecule or polypeptide, or administering a compound that inhibits pathogenicity or replication of a SARS virus, to the animal.

127. (new) The method of claim 126, wherein the animal is a human.

128. (new) A method of identifying a compound for treating or preventing a SARS virus infection, comprising contacting sample comprising a SARS virus nucleic acid molecule or contacting a SARS virus polypeptide with the compound, wherein an increase or decrease in the expression or activity of the nucleic acid molecule or the polypeptide identifies a compound for treating or preventing a SARS virus infection.

129. (new) A vaccine comprising a SARS virus nucleic acid molecule or polypeptide.

130. (new) The vaccine of claim 128, wherein the vaccine is a DNA vaccine.

131. (new) A microarray comprising a plurality of elements, wherein each element comprises one or more distinct nucleic acid or amino acid sequences, and wherein the sequences are selected from a SARS virus nucleic acid molecule or polypeptide, or a antibody that specifically binds a SARS virus nucleic acid molecule or polypeptide.

132. (new) A computer readable record comprising distinct SARS virus nucleic acid or amino acid sequences.

133. (new) The computer readable record of claim 131, wherein the computer readable record comprises a database.